

PHOTODETECTOR WITH NEAR FIELD CONCENTRATION.

ABSTRACT

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The field of the invention is that of photodetectors (10), and more
10 precisely so-called quantum well photodetectors operating in the medium
infrared, known by the acronym QWIP standing for Quantum Well Infrared
Photodetector.

It is an object of the invention to increase the detectivity of the
detectors by significantly reducing the surface area of the detection zone
15 while conserving the incident flux. This result is obtained by arranging a
structure (4) or grating on the active zone (31) of the photodetector (10),
which couples the incident wave and confines it on the active zone (31).

The major features of this structure (4) or this grating are that it
comprises patterns or grooves having a first spatial frequency and a second
20 spatial frequency, and also comprising a central defect.

Figure 8